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STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			DWIVEDI, MAHESH H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/629,768

Applicant(s)

KATOU ET AL.

Examiner

MAHESH H. DWIVEDI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,9-11,13-17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-11,13-17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1 Receipt of Applicant's Amendment, filed on 02/24/2009, is acknowledged. The amendment includes the amending of the specification and the amending of claims 1, 6, 11, 16, and 23-24, the cancellation of claims 3, 8, 12-13, and 18, and the addition of claim 26.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claim 26 is rejected under 35 U.S.C. 102(a) as being anticipated by

Aoyama et al. (U.S. Patent 6,301,592).

5. Regarding claim 26, **Aoyama** teaches a method comprising:

A) selecting an icon of a version of information (Column 8, lines 54-60, Figure 16); and

B) displaying connectors of unselected icons differently than connectors of the selected icon (Column 8, lines 54-60, Figure 16).

The examiner notes that **Aoyama** teaches “**selecting an icon of a version of information**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60). The examiner further notes that **Aoyama** teaches “**displaying connectors of unselected icons differently**”

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than connectors of the selected icon” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujieda** (U.S. PGPUB 2001/0007997) in view of **Chartier et al.** (U.S. Patent 6,636,211), and further in view of **Aoyama et al.** (U.S. Patent 6,301,592).

9. Regarding claim 1, **Fujieda** teaches a system comprising:

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- A) a storage section, formed by hardware, configured to store file information in units of generations (Paragraphs 143-144, 146-150, Figures 9-10);
- B) each file information having a different generation before and after a modification by an editing process (Paragraphs 143-144, 146-150, Figures 9-10);
- C) an inter-file correspondence table, formed by hardware, configured to store corresponding relationships of the file information stored in the storage, including generation information (Paragraphs 121-122, 143-144, 146-150, Figures 7, and 9-10); and
- F) a processing unit configured to refer to the inter-file correspondence table to display relationships of the file information corresponding to the icon data (Paragraphs 143-144, 146-150, Figures 9-10);
- G) wherein a modification of one of two related units of file information by the editing process affects the other of the two units of related file information, including generation information (Paragraphs 121-122, and 146-148, Figures 7, and 9-10); and
- H) the processing unit displays on the display unit the relationships of the file information, having different generations (Paragraphs 143-144, 146-150, Figures 9-10).

The examiner notes that **Fujieda** teaches “**a storage section, formed by hardware, configured to store file information in units of generations**” as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of

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example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"each file information having a different generation before and after a modification by an editing process"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"an inter-file correspondence table, formed by hardware, configured to store corresponding relationships of the file information stored in the storage, including generation information"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model

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stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144), and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that **Fujieda teaches "a processing unit configured to refer to the inter-file correspondence table to display relationships of the file information corresponding to the icon data"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a

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screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows the relationship of the various parts in a tree structure with both Phase 1 and Phase 2. The examiner further notes that **Fujieda** teaches **"wherein a modification of one of two related units of file information by the editing process affects the other of the two units of related file information, including generation information"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), and "If, in a PDM configuration view shown in FIG. 10, trial manufacture of "Rear Suspension", for example, is requested, the CPU 40a judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to "Master". Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data" (Paragraphs 146-147). The examiner further notes that **Fujieda** teaches **"the processing unit displays on the display unit the relationships of the file information, having different generations"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and

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the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- D) an icon storage, formed by hardware, configured to store icon data corresponding to the file information;
- E) said icon data including an image representative of a CAD image corresponding to the file information; and
- F) a processing unit configured to refer to the icon storage and to display, on the display unit, icon data of the file information stored in the storage section in units of generations; and
- H) corresponding to the icon data.

Chartier, however, teaches **"an icon storage, formed by hardware, configured to store icon data corresponding to the file information"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship

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between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"said icon data including an image representative of a CAD image corresponding to the file information"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"a processing unit configured to refer to the icon storage and to display, on the display unit, icon data of the file information stored in the storage section in units of generations"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and

“corresponding to the icon data” as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12” (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier’s** would have allowed **Fujieda’s** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujiedia and **Chartier** do not explicitly teach:

H) and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information;

I) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches **“and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information”** as “In FIG.

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16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60) and **"upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 2, **Fujieda** further teaches a system comprising:

- A) an input controller configured to detect an input to the CAD generation management system (Paragraphs 145-150, Figure 10); and
- B) said processing unit displaying on the display unit the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data (Paragraphs 145-150, Figure 10).

The examiner notes that **Fujieda** teaches **"an input controller configured to detect an input to the CAD generation management system"** as "The PDM configuration view screen shows the latest phase, but it is also

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possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear. The examiner further notes that **Fujieda** teaches **"said processing unit displaying on the display unit the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data"** as "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear.

Regarding claim 4, **Fujieda** and **Chartier** do not explicitly teach a system comprising:

A) wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation.

Aoyama, however, teaches **"wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of

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projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

The examiner notes that Figure 16 of **Aoyama** depicts different kinds of lines with differing widths.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 5, **Fujieda** further teaches a system comprising:

A) means for acquiring a CAD program and/or the file information via one or more networks (Paragraphs 42 and 65, Figure 1).

The examiner notes that **Fujieda** teaches "**means for acquiring a CAD program and/or the file information via one or more networks**" as "When bulk data of a certain model is necessary, an inquiry is made with respect to the first server 1, and the corresponding meta-data and decryption key are acquired and transmitted to the terminal which has made the request. Accordingly, bulk data, which has a vast amount of information, need not be transferred from the second server to the first server 1, and thus the network can be prevented from being overloaded" (Paragraph 65). The examiner further wishes to state that Figure 1 clearly shows various terminals 3-1, 3-2, and 3-3 having network access to CAD material located on servers 1 and 2.

Regarding claim 6, **Fujieda** teaches a system comprising:

A) a storage section, formed by hardware, configured to store font information in units of generations (Paragraphs 143-144, 146-150, Figures 9-10);

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D) a third storage, formed by hardware, configured to store the generation information of the file information, each file information having different generations before and after a modification by an editing process (Paragraphs 143-144, 146-150, Figures 9-10);

E) a processing unit configured to refer to the generation information stored in the third storage in response to an instruction to display generation information of target file information (Paragraphs 143-144, 146-150, Figures 9-10);

F) wherein a modification of one of two related units of file information by the editing process affects the other of the two related units of file information, including the generation information (Paragraphs 121-122, and 146-148, Figures 7, and 9-10); and

G) the processing unit displays on the display unit the relationships of the file information, having different generations (Paragraphs 143-144, 146-150, Figures 9-10).

The examiner notes that **Fujieda** teaches **“a storage section, formed by hardware, configured to store font information in units of generations”** as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further wishes to state that

Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **“a third storage, formed by hardware, configured to store the generation information of the file information, each file information having different generations before and after a modification by an editing process”** as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **“a processing unit configured to refer to the generation information stored in the third storage in response to an instruction to display generation information of target file information”** as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data

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by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows the relationship of the various parts in a tree structure with both Phase 1 and Phase 2. The examiner further notes that **Fujieda** teaches **"wherein a modification of one of two related units of file information by the editing process affects the other of the two related units of file information, including the generation information"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), and "If, in a PDM configuration view shown in FIG. 10, trial manufacture of "Rear Suspension", for example, is requested, the CPU 40a judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to "Master". Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data" (Paragraphs 146-147). The examiner further notes that **Fujieda** teaches **"the processing unit displays on the display unit the relationships of the file information, corresponding to**

the icon data and having different generations, by lines connecting related icon data" as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- B) a second storage, formed by hardware, configured to store icon data indicating file information;
- C) said icon data including an image representative of a CAD image corresponding to the file information;
- E) a processing unit configured to create and display, on the display unit, the icon data related to the generation information to be displayed on the display unit by combining the font information stored in the first storage and the icon data stored in the second storage; and
- G) corresponding to the icon data.

Chartier, however, teaches "**a second storage, formed by hardware, configured to store icon data indicating file information**" as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional

sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"said icon data including an image representative of a CAD image corresponding to the file information"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"a processing unit configured to create and display, on the display unit, the icon data related to the generation information to be displayed on the display unit by combining the font information stored in the first storage and the icon data stored in the second storage"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures

16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and "**corresponding to the icon data**" as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier's** would have allowed **Fujieda's** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujieda and **Chartier** do not explicitly teach:

G) and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information;

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H) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches “**and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60) and “**upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 7, **Fujieda** further teaches a system comprising:

- A) an input controller configured to detect an input to the CAD generation management system, including the instruction (Paragraphs 145-150, Figure 10); and
- B) said processing unit displaying on the display unit the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data (Paragraphs 145-150, Figure 10).

The examiner notes that **Fujieda** teaches **“an input controller configured to detect an input to the CAD generation management system, including the instruction”** as “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear. The examiner further notes that **Fujieda** teaches **“said processing unit displaying on the display unit the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data”** as “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows

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that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear.

Regarding claim 9, **Fujieda** and **Chartier** do not explicitly teach a system comprising:

A) wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation.

Aoyama, however, teaches “**wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60).

The examiner notes that Figure 16 of **Aoyama** depicts different kinds of lines with differing widths.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 10, **Fujieda** further teaches a system comprising:

A) means for acquiring a CAD program and/or the file information via one or more networks (Paragraphs 42 and 65, Figure 1).

The examiner notes that **Fujieda** teaches “**means for acquiring a CAD program and/or the file information via one or more networks**” as “When bulk data of a certain model is necessary, an inquiry is made with respect to the

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first server 1, and the corresponding meta-data and decryption key are acquired and transmitted to the terminal which has made the request. Accordingly, bulk data, which has a vast amount of information, need not be transferred from the second server to the first server 1, and thus the network can be prevented from being overloaded" (Paragraph 65). The examiner further wishes to state that Figure 1 clearly shows various terminals 3-1, 3-2, and 3-3 having network access to CAD material located on servers 1 and 2.

Regarding claim 11, **Fujieda** teaches a computer-readable storage medium comprising:

- A) a procedure to cause the computer to store file information in a storage in units of generations (Paragraphs 143-144, 146-150, Figures 9-10);
- B) each file information having a different generation before and after a modification by an editing process (Paragraphs 143-144, 146-150, Figures 9-10);
- C) a procedure to cause the computer to store corresponding relationships of the file information stored in the storage, including generation information, in an inter-file correspondence table (Paragraphs 121-122, 143-144, 146-150, Figures 7, and 9-10); and
- F) a control procedure to cause the computer to refer to the inter-file correspondence table to display relationships of the file information corresponding to the icon data (Paragraphs 143-144, 146-150, Figures 9-10);
- G) an editing procedure to cause the computer to carry out the editing process in which a modification of one of two related units of file information affects the other of the two related units of file information, including generation information (Paragraphs 121-122, and 146-148, Figures 7, and 9-10); and
- H) wherein the control procedure causes the computer to display the relationships of the file information, having different generations (Paragraphs 143-144, 146-150, Figures 9-10).

The examiner notes that **Fujieda** teaches "**a procedure to cause the computer to store file information in a storage in units of generations**" as

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"In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"each file information having a different generation before and after a modification by an editing process"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen.

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This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"a procedure to cause the computer to store corresponding relationships of the file information stored in the storage, including generation information, in an inter-file correspondence table"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144), and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that **Fujieda** teaches **"a control procedure to cause the computer to refer to the inter-file correspondence table to display relationships of the file**

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information corresponding to the icon data" as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows the relationship of the various parts in a tree structure with both Phase 1 and Phase 2. The examiner further notes that **Fujieda** teaches **"an editing procedure to cause the computer to carry out the editing process in which a modification of one of two related units of file information affects the other of the two related units of file information, including generation information"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), and "If, in a PDM configuration view shown in FIG. 10, trial manufacture of "Rear Suspension", for example, is requested, the CPU 40a judges that a transition of phases has occurred.

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Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to "Master". Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data" (Paragraphs 146-147). The examiner further notes that **Fujieda teaches "wherein the control procedure causes the computer to display the relationships of the file information, having different generations"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- D) a procedure to cause the computer to store icon data corresponding to the file information in an icon storage;
- E) said icon data including an image representative of a CAD image corresponding to the file information;
- F) a control procedure to cause the computer to refer to the inter-file correspondence table and the icon storage and to display icon data of the file information stored in the storage section in units of generations; and

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H) corresponding to the icon data.

Chartier, however, teaches **“a procedure to cause the computer to store icon data corresponding to the file information in an icon storage”** as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12” (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **“said icon data including an image representative of a CAD image corresponding to the file information”** as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12” (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **“a control procedure to cause the computer to refer to the inter-file correspondence table and the icon storage and to display icon data of the file information stored in the storage section in units of generations”** as

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"Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and **"corresponding to the icon data"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier's** would have allowed **Fujieda's** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujiedia and **Chartier** do not explicitly teach:

H) and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information;

I) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches “**and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60) and “upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and

program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 12, **Fujieda** further teaches a computer-readable storage medium comprising:

- A) an input procedure to cause the computer to detect an input to the computer (Paragraphs 145-150, Figure 10); and
- B) said control procedure causing the computer to display the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data (Paragraphs 145-150, Figure 10).

The examiner notes that **Fujieda** teaches “**an input procedure to cause the computer to detect an input to the computer**” as “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear. The examiner further notes that **Fujieda** teaches “**said control procedure causing the computer to display the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data**” as “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear

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Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear.

Regarding claim 14, **Fujieda** and **Chartier** do not explicitly teach a computer-readable storage medium comprising:

A) wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation.

Aoyama, however, teaches "**wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation**" as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

The examiner notes that Figure 16 of **Aoyama** depicts different kinds of lines with differing widths.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 15, **Fujieda** further teaches a computer readable storage medium comprising:

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A) a procedure to cause the computer to acquire a CAD program and/or the file information via one or more networks (Paragraphs 42 and 65, Figure 1).

The examiner notes that **Fujieda** teaches “**a procedure to cause the computer to acquire a CAD program and/or the file information via one or more networks**” as “When bulk data of a certain model is necessary, an inquiry is made with respect to the first server 1, and the corresponding meta-data and decryption key are acquired and transmitted to the terminal which has made the request. Accordingly, bulk data, which has a vast amount of information, need not be transferred from the second server to the first server 1, and thus the network can be prevented from being overloaded” (Paragraph 65). The examiner further wishes to state that Figure 1 clearly shows various terminals 3-1, 3-2, and 3-3 having network access to CAD material located on servers 1 and 2.

Regarding claim 16, **Fujieda** teaches a computer storage medium comprising:

A) a procedure to cause the computer to store font information indicating generation information in a first storage (Paragraphs 143-144, 146-150, Figures 9-10);

D) a procedure to cause the computer to store the generation information of the file information in a third storage, each file information having different generations before and after a modification by an editing process (Paragraphs 143-144, 146-150, Figures 9-10);

E) a control procedure to cause the computer to refer to the generation information stored in the third storage in response to an instruction to display information of target file information (Paragraphs 143-144, 146-150, Figures 9-10);

F) an editing procedure to cause the computer to carry out the editing process in which a modification of one of two related units of file information affects the

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other of the two related units of file information, including generation information (Paragraphs 121-122, and 146-148, Figures 7, and 9-10);

G) wherein the control procedure causes the computer to display the relationships of the file information, having different generations (Paragraphs 143-144, 146-150, Figures 9-10)

The examiner notes that **Fujieda** teaches “**a procedure to cause the computer to store font information indicating generation information in a first storage**” as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches “**a procedure to cause the computer to store the generation information of the file information in a third storage, each file information having different generations before and after a modification by an editing process**” as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number

starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"a control procedure to cause the computer to refer to the generation information stored in the third storage in response to an instruction to display information of target file information"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows the

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relationship of the various parts in a tree structure with both Phase 1 and Phase 2. The examiner further notes that **Fujieda** teaches **“an editing procedure to cause the computer to carry out the editing process in which a modification of one of two related units of file information affects the other of the two related units of file information, including generation information”** as “If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified” (Paragraphs 121-122), and “If, in a PDM configuration view shown in FIG. 10, trial manufacture of “Rear Suspension”, for example, is requested, the CPU 40a judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to “Master”. Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data” (Paragraphs 146-147). The examiner further notes that **Fujieda** teaches **“wherein the control procedure causes the computer to display the relationships of the file information, having different generations”** as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen

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shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- B) a procedure to cause the computer to store icon data indicating file information in a second storage;
- C) said icon data including an image representative of a CAD image corresponding to the file information;
- E) a control procedure to cause the computer to create and display icon data related to the generation information to be displayed by combining the font information stored in the first storage and the icon data stored in the second storage;
- G) corresponding to the icon data.

Chartier, however, teaches "a procedure to cause the computer to store icon data indicating file information in a second storage" as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12,

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Figures 1-2), **“said icon data including an image representative of a CAD image corresponding to the file information”** as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12” (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **“a control procedure to cause the computer to create and display icon data related to the generation information to be displayed by combining the font information stored in the first storage and the icon data stored in the second storage”** as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12” (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and **“corresponding to the icon data”** as “Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object

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12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier's** would have allowed **Fujieda's** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujieda and **Chartier** do not explicitly teach:

G) and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information;

H) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches **"and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of

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projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60) and "upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon" as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 17, **Fujieda** further teaches a computer-readable storage medium comprising:

- A) an input procedure to cause the computer to detect an input to the computer, including the instruction (Paragraphs 145-150, Figure 10); and
- B) said control procedure causing the computer to display the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data (Paragraphs 145-150, Figure 10).

The examiner notes that **Fujieda** teaches **"an input procedure to cause the computer to detect an input to the computer, including the instruction"** as "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing

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a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear. The examiner further notes that **Fujieda** teaches **"said control procedure causing the computer to display the relationships of selected icon data with emphasis when the input controller detects an input selecting the selected icon data from the displayed icon data"** as "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that Figure 10 clearly shows that as a result of a user action to the rear-suspension button in interface 70, interfaces 71 and 72 appear.

Regarding claim 19, **Fujieda** and **Chartier** do not explicitly teach a computer-readable storage medium comprising:

A) wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation.

Aoyama, however, teaches **"wherein a kind, a width and a color of the lines connecting the icon data are set differently for each generation"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the

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versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

The examiner notes that Figure 16 of **Aoyama** depicts different kinds of lines with differing widths.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 20, **Fujieda** further teaches a computer readable storage medium comprising:

A) a procedure to cause the computer to acquire a CAD program and/or the file information via one or more networks (Paragraphs 42 and 65, Figure 1).

The examiner notes that **Fujieda** teaches "**a procedure to cause the computer to acquire a CAD program and/or the file information via one or more networks**" as "When bulk data of a certain model is necessary, an inquiry is made with respect to the first server 1, and the corresponding meta-data and decryption key are acquired and transmitted to the terminal which has made the request. Accordingly, bulk data, which has a vast amount of information, need not be transferred from the second server to the first server 1, and thus the network can be prevented from being overloaded" (Paragraph 65). The examiner further wishes to state that Figure 1 clearly shows various terminals 3-1, 3-2, and 3-3 having network access to CAD material located on servers 1 and 2.

Regarding claim 21, **Fujieda** further teaches a system comprising:

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A) wherein the processing unit carries out the editing process in response to an input from the input device (Paragraphs 121-122, and 146-148, Figures 7, and 9-10).

The examiner notes that **Fujieda** teaches “**wherein the processing unit carries out the editing process in response to an input from the input device**” as “If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified” (Paragraphs 121-122), and “If, in a PDM configuration view shown in FIG. 10, trial manufacture of “Rear Suspension”, for example, is requested, the CPU 40a judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to “Master”. Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data” (Paragraphs 146-147).

Regarding claim 22, **Fujieda** further teaches a system comprising:

A) wherein the processing unit carries out the editing process in response to an input from the input device (Paragraphs 121-122, and 146-148, Figures 7, and 9-10).

The examiner notes that **Fujieda** teaches “**wherein the processing unit carries out the editing process in response to an input from the input device**” as “If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and

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simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), and "if, in a PDM configuration view shown in FIG. 10, trial manufacture of "Rear Suspension", for example, is requested, the CPU 40a judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to "Master". Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data" (Paragraphs 146-147).

Regarding claim 23, **Fujieda** teaches a method comprising:

- A) storing a plurality of file information including respective generation information of each file information (Paragraphs 143-144, 146-150, Figures 9-10);
- B) each file information having a different generation before and after a modification by an editing process (Paragraphs 143-144, 146-150, Figures 9-10);
- C) interrelating the stored file information, based upon the respective generation information (Paragraphs 121-122, 143-144, 146-150, Figures 7, and 9-10); and
- F) displaying the interrelationships of the stored file information using the respective corresponding icons (Paragraphs 143-144, 146-150, Figures 9-10);
- G) wherein a modification of one of two related units of file information by the editing process affects the other of the two related units of file information, including the generation information (Paragraphs 121-122, and 146-148, Figures 7, and 9-10); and

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H) the displaying displays the relationships of the file information, having different generations (Paragraphs 143-144, 146-150, Figures 9-10);).

The examiner notes that **Fujieda** teaches “**storing a plurality of file information including respective generation information of each file information**” as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches “**each file information having a different generation before and after a modification by an editing process**” as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on

screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows multiple versions of the same part (Rear Cushion 1 in Phase 1 and Rear Cushion 2 in Phase 2). The examiner further notes that **Fujieda** teaches **"interrelating the stored file information, based upon the respective generation information"** as "If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified" (Paragraphs 121-122), "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144), and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease"

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(Paragraphs 149-150). The examiner further notes that **Fujieda** teaches **“displaying the interrelationships of the stored file information using the respective corresponding icons”** as “In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with “1” is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue” (Paragraphs 143-144) and “The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, “Rear Suspension Ph1” relating to phase #1 and “Rear Suspension Ph2” relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease” (Paragraphs 149-150). The examiner further wishes to state that Figure 10 of **Fujieda** clearly shows the relationship of the various parts in a tree structure with both Phase 1 and Phase 2. The examiner further notes that **Fujieda** teaches **“wherein a modification of one of two units of related file information by the editing process affects the other of the two related units of file information, including the generation information”** as “If, in the three-view drawing, the content of the part column 60a or of the title columns 60b is modified, the CPU 40a detects such modification and simultaneously modifies the attribute data assigned to the corresponding model stored in the HDD 40d as well as the content shown in the attribute view. In cases where the attribute data assigned to the model has been modified, the part column 60a and title columns 60b of the three-view drawing and also the display content of the attribute view are simultaneously modified” (Paragraphs 121-122), and “If, in a PDM configuration view shown in FIG. 10, trial manufacture of “Rear Suspension”, for example, is requested, the CPU 40a

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judges that a transition of phases has occurred. Accordingly, the CPU registers the bulk data of the rear suspension in the HDD 40d as phase-#1 bulk data, prohibits modification or revision of the bulk data, and sets the status of the bulk data to "Master". Subsequently, the CPU 40a copies the phase-#1 bulk data of the rear suspension to a predetermined area of the HDD 40d and sets the copy as phase #2. All subsequent revisions are made with respect to the phase-#2 data" (Paragraphs 146-147). The examiner further notes that **Fujieda** teaches **"the displaying displays the relationships of the file information, having different generations"** as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- D) corresponding an icon for each file information;
- E) said icon information including an image representative of a CAD image corresponding to the file information; and
- H) corresponding to the icon data.

Chartier, however, teaches **"corresponding an icon for each file information"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool.

The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"said icon information including an image representative of a CAD image corresponding to the file information"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and **"corresponding to the icon data"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been

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combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier's** would have allowed **Fujieda's** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujieda and Chartier do not explicitly teach:

G) and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information;

H) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches **"and by displaying first lines connecting those of the displayed data that are related based on first generation information and displaying second lines connecting those of the displayed data that are related based on second generation information"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60) and **"upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than**

a line connecting the selected icon" as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 24, **Fujieda** teaches a method comprising:

- A) presenting information on a display for a plurality of files with at least one of the files having a plurality of versions (Paragraphs 143-144, 146-150, Figures 9-10);
- C) for each of the plurality of files and each of the versions of the files (Paragraphs 143-144, 146-150, Figures 9-10).

The examiner notes that **Fujieda** teaches "**presenting information on a display for a plurality of files with at least one of the files having a plurality of versions**" as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc.

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through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150). The examiner further notes that **Fujieda** teaches "**for each of the plurality of files and each of the versions of the files**" as "In this embodiment, different phases are set for a model and the version number is assigned to each phase, thus making it possible to manage the model by the phase. In the illustrated example, a model A has three kinds of phase, phases #1 to #3, and the version number starting with "1" is assigned to each phase. By thus generating an independent version number for each phase for the management of the model, it is possible to acquire target data by using the phase as a clue" (Paragraphs 143-144) and "The PDM configuration view screen shows the latest phase, but it is also possible to display a plurality of phases on screen at the same time by executing a predetermined command etc. through operation of the input device 41. Such a screen is shown in FIG. 11, by way of example. In the illustrated example, "Rear Suspension Ph1" relating to phase #1 and "Rear Suspension Ph2" relating to phase #2 are shown on the same screen. This display screen permits the part or unit of a previous phase to be looked up with ease" (Paragraphs 149-150).

Fujieda does not explicitly teach:

- B) assigning an icon to each of the plurality of files;
- C) displaying the assigned icons;
- D & E) icons.

Chartier, however, teaches "**assigning an icon to each of the plurality of files**" as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been

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defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), **"displaying the assigned icons"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2), and **"icons"** as "Turning to FIG. 1, there is shown a representative display 10 of a graphical object 12 which has been created using a computerized design tool. The object 12 is comprised of a number of separate features, such as cylinders, holes, two-dimensional sketches, etc., which have been combined to produce the object. For each of these features, a corresponding miniature 16 has been defined. The miniatures 16 can be displayed in a feature tree 14 which, in this representation, is organized in a hierarchical manner to show how the various features have been combined to create the object. Other ways of displaying the relationship between various miniatures 16 can also be used. Each of the miniatures are preferably rendered in an orientation or rotation which corresponds to the rotation used to display to the object 12" (Column 3, lines 66-67-Column 4, lines 1-12, Figures 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Chartier's** would have allowed **Fujieda's** to provide a method for an improved system and method for displaying the features of a complex three-dimensional object which simplifies the identification and selection of features, as noted by **Chartier** (Column 2, lines 32-35).

Fujieda and Chartier do not explicitly teach:

- D) displaying a first line connecting related for a first version;
- E) displaying a second line connecting related for a second version;
- F) upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon.

Aoyama, however, teaches “**displaying a first line connecting related for a first version**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60), “**displaying a second line connecting related for a second version**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60), and “**upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon**” as “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the

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versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Regarding claim 25, **Fujieda** and **Aoyama** do not explicitly teach a method comprising:

A) the first line and the second line being displayed simultaneously.

Aoyama, however, teaches **"the first line and the second line being displayed simultaneously"** as "In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors" (Column 8, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Aoyama's** would have allowed **Fujieda's** and **Chartier's** to provide a method to recognize how the constituent elements such as documents and program sources of projects are edited and how the elements are related to each other with respect to time, as noted by **Aoyama** (Column 8, lines 61-64).

Response to Arguments

10. Applicant's arguments filed 02/24/2009 have been fully considered but they are not persuasive.

Applicants argue on page 12 that **“Aoyama merely teaches a line connecting elements and does not teach each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon”**. However, the Examiner wishes to refer to Column 8 of **Aoyama** which states “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60). The examiner further wishes to state that showing differing versions of projects comprising differing versions of components via lines of “different colors” clearly shows lines displayed in a different manner. Moreover, Figure 16 of **Aoyama** clearly shows the different lines (one with only one line, and another with two lines) connecting in different manners.

Applicants argue on page 12 that **“Applicants submit, however, that the “different kinds of lines with differing width,” as illustrated in Fig. 16 do not teach that “upon selecting an icon of a certain version, each of the lines connecting icons of other versions are displayed in a different manner than a line connecting the selected icon”**. However, the Examiner wishes to refer to Column 8 of **Aoyama** which states “In FIG. 16, the creation date of constituent elements is used as a reference for placement in the horizontal direction, and versions specified as elements of projects are connected to each other via a line. In addition to the linkage, the versions specified as elements of projects each may be, for example, enclosed with a line to display the enclosed areas in different colors” (Column 8, lines 54-60). The examiner further wishes to state that showing differing versions of projects comprising differing versions of components via lines of “different colors” clearly shows lines displayed in a different manner. Moreover, Figure 16 of **Aoyama** clearly shows the differing widths of BOTH lines (i.e., each of the lines).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,557,002 issued to **Fujieda et al.** on 29 April 2003. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 6,944,515 issued to **Nakajima et al.** on 13 September 2005. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. PGPUB 2002/0080194 issued to **Fujieda et al.** on 27 June 2002. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 6,304,790 issued to **Nakamura et al.** on 16 October 2001. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 7,016,922 issued to **Sahoo** on 21 March 2006. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 6,760,735 issued to **Rusche** on 06 July 2004. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. PGPUB 2003/00218634 issued to **Kuchinsky et al.** on 27 November 2003. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7,

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9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 4,862,376 issued to **Ferriter et al.** on 29 August 1989. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 6,895,560 issued to **Das** on 24 May 2005. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 7,047,237 issued to **Suzuki et al.** on 16 May 2006. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view varying versions of parts in a CAD system efficiently).

U.S. Patent 6,144,962 issued to **Weinberg et al.** on 07 November 2000. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view icons).

U.S. Patent 6,661,437 issued to **Miller et al.** on 09 December 2003. The subject matter disclosed therein is pertinent to that of claims 1-2, 4-7, 9-12, 14-17, and 19-26 (e.g., methods to view icons).

The examiner notes that the **Fujieda** patent (U.S. Patent 6,577,002) displays analogous subject matter that is commonly owned by the assignee of the instant application.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory

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period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi
Patent Examiner
Art Unit 2168

April 24, 2009

/Mahesh H Dwivedi/

Examiner, Art Unit 2168

Art Unit: 2168

/Tim T. Vo/

Supervisory Patent Examiner, Art Unit 2168